James River Bacteria IP Steering Committee Meeting #2 Minutes 3/9/2011

1. Introductions (10 Min)
2. Steering Committee Meeting #3 (5 min)- The tentative meeting date for the 3rd meeting needs to be set soon, the meeting will be at PRO again around 2pm. Let Margaret know about any conflicts, the week of April 11 would be the last SC meeting; we plan to get you a draft IP the week before the meeting. March 23 is the deadline for any data/information to be included in the draft IP. Public meeting for the draft IP would be May 18th. That date will not change; we have to have the draft finalized by end of July.
3. Recap (30 Min)-the summary is to tell you what it is that we still need in terms of information, not all are to do's.
   -In first SC meeting held on Jan 12th there was concern about how SW BMPs would be modeled. Megan's synopsis on the modeling was sent out in an email and she has not received any comments to date.
   -Localities that were working on recommended numbers of sewer connections and cost- we will need any of that data by the deadline, we need the # of connections and the cost.
   - pet education and pet waste BMPs- if you can send us any layers of green spaces then we could get an idea on where and how many pet waste stations are needed. Large scale media campaigns were discussed in the last residential work group meeting specifically for pet-waste education however, could combine pet waste and stormwater education in media outreach.
   - throughout the process we are getting ideas as we go about new BMP's if you know of any BMPs that have been completed please let us know so we can add those (and give credit for what has already been done).
   -please send us any information or literature regarding sources for BMP efficiencies. There was previous discussion on if we could use efficiency ranges, we are unable to use ranges.
   -street sweeping- please send us the average lane miles and areas that currently have sweeping, if you want to install pervious pavement and need more equipment for street sweeping let us know.
   -Wildlife management plan, Craig has comments he wants to discuss on what he talked to DGIF about. Craig will follow-up with SC members regarding that discussion.
   -if you have any good practices or BMP's that are already being done but don't have efficiencies then please let us know. These things can be "promoted" items in IP.
   Questions?
   Where is the bibliography on the BMPs that you are using, how do we know what BMPs you are using? Megan will take another look at Clearinghouse SW BMP site. There weren't many included on the site so she had to look elsewhere for efficiency values for some practices.
   Everything that is here is in your footnotes right? Yes
   Is this what EPA uses? Not sure if they use this Clearinghouse – they have sited various sources in some publications.
   If we are not using ranges don't we have to use BMP's that show growth too? Not sure that we can "show growth", will be part of adaptive management.
4. Handouts (1 Hr. 15 min)

Page 1 handout: Residential BMP's- Any practice to eliminate straight pipes and failing systems. There is no removal efficiency associated with pump outs (preventative maintenance). Megan removed the counties that had required pump outs under CBA; the only areas that have pump out needs are in the 2 counties that don't fall under CBA for mandatory pumpouts (Goochland and Powhatan).
-Pet waste education program, 3 things have been included: baggie sign waste basket station, bag refills and mailings. Richmond sent the # of stations they already had, they had 28 parks and 28 baggie stations (inferred that all necessary stations were installed but stakeholders can recommend more – need to know where and how many). Chris French thinks that the numbers of parks are wrong for the city of Richmond (was based on the green space layer provided from RR PDC). Megan says it was for the James River riverine section. Chris thinks its many more parks than that. For bag refills she assumed there are 10 bags used per day at each station.
-Margaret, we would want to find out from the City Of Richmond how many more pet waste stations we would need to add for James Riverine section.
-For mailings Megan estimated the number of houses by the census, she has one mailing per household in stage 1 and one mailing again during stage 2. If you want to do radio or TV commercials she can add them in but will need costs. If we did TV commercials in the IP report could separate out pet-waste education or have a huge table with everything in it. You are supposed to have a plan/IP for each creek so she would divide the TV commercial cost and resources equally between all the creeks. What is also not included in the report was education to Vet offices and SPCA's. She couldn't quantify that number but localities/stakeholders can provide an estimate per Creek.
-Mark Alling recently participated in a video that was done by students at U or R, for awareness for the James River.
-In the future, all the counties will have MS4's according to EPA, so most counties and cities already have to spend money on educating for MS4's (comment by Bob Steidel).
-Megan says let's get the best average cost for all these things that we want in the plan, that will be something to start with.
-Bob-How are you applying 75% efficiency for pet waste?
-Megan-dog waste is applied on residential land use, when you apply a dog waste program then you can say there is 75% less now. Then the spreadsheet will add up all the BMP's and get a total and see if it is less or more than the target load. It will all be delisted based on the monitoring data. Park land is not added into the land use (would probably be considered "forest" in land use information). Megan said all BMPs in Stage I were included there because they are the best bang for the buck and in some cases there are already cost share in place for some of these BMPs
Page 2 handout: Megan said for cattle she assumed the number of 50 cattle per farm, for horse numbers she estimated 5 horses per farm. For retention basins (for pasture) that is a last ditch effort BMP", the districts don't like them, however, often they are what gets the plan to the target load. With the inclusion of "reforestation of crop and pasture land" we were able to meet the loads without having retention basins on farms (thanks for suggestion Ram).

-Residential BMP's – pet waste composter are in Stage II, it would get to more than 75% compliance. 99% efficiency is what is used for composting. Not all streams required the composters. Mailings were included again, the same number as stage 1 and bag refills.
-Margaret explained the composters were removed from Stage I because the City of Richmond suggested composters were not a measurable goal because you don't know who uses them. If you want them in Stage I then please let us know. Bob asked, what is the 99% of composters from, is it part of the 49% of people that pick up after their dog? Megan said she would say we want 50 composters for 50 houses, that would service 25 dogs that would be 25 dogs' bacteria which would be removed from the watershed.
- Residential urban SW BMP's- these are land use based % reductions to any and all bacteria flowing in the runoff from the land use. Megan put an acre for each practice. ET is evapotransporation. These were on CSO and Non-CSO residential urban land uses.
-CSO SW Volume reduction BMP's were only quantified for CSO subwatersheds (b/c to derive numbers must use City's CSO model). The James River Riverine, the James River tidal and Reedy creek did not require any reductions for CSOs, only Almond and Gillies have SW BMPs quantified and the cost as a requirement for reaching the target load. The James River Riverine, the James River tidal and Reedy Creek #s for SW Volume reduction BMPs were quantified in the very last table, they are not needed in the CSO subwatersheds that's why they are not in the IP tables. They can be included in the IP if the SC thinks the information would be helpful for those working in the watershed.
-There are some green roofs that are already in place, the City of Richmond and SunTrust building are in the James River tidal. 11600 square feet is the size of the SunTrust building. Also 2 at VCU (Trani Life Science building and Engineering building) and one is planned for the Science Museum.
- Ed mentioned on the residential and urban stormwater BMP's – we need to be clear on how many data points the clearing house has. On #6 there are only 11 data points. We need to know how many data points are on some of these references, Ed will go back and cite how many points are on this and provide.
- Bob asked are we using DCR clearing house data? City Of Richmond bases their whole Storm Water program on the database. Megan will look again but there weren't many and she needed efficiencies for practices not listed there.
-Ram said if you stop the flow then you will have fewer bacteria, that's what it is based on in the DCR database.
-Chris French said the best information is from NC State - for bio retention basins.
-Ram- for the agriculture data the time frame we use is 10 years; we have 20 years for the agriculture phases.
- Megan is putting all the agriculture practices in Stage I. There is not a lot of agriculture closer to Richmond.
-Keith said the agriculture industry in these watersheds are going to change dramatically in the next 10 years, currently there is land that is being turned from forested to agriculture and the Bay TMDL will change agriculture practices dramatically in the next 10 years. Megan said if you want the agriculture to change to "5 year stages" we can do that – please let her know.

-Chris said he didn't see anything on "riparian buffers" in suburban areas. Megan said she included them for agriculture by looking at all the cropland, and anytime a stream was flowing through it or adjacent to it she counted the stream miles that could have a 35% buffer, she can do that for residential also, they have not been accepted in the past because they take up landowner yards or baseball fields. We could change the buffer widths for residential (make them smaller if that would make them more appealing).
-Craig L said there are some buffers that are already in place, they don't have to be fenced out, and it doesn't have to be 35 feet but there could be an account for some of those reductions.
-Megan asked SC members if they would want that analysis done for riparian buffers?
-Chris said it can be left up to the group, as long as it's a tool available to us to use in the future then he is fine with that. As long as it is in the report as a practice that could be looked at.
-Megan said the reductions would be the same as for agriculture buffers, it would be just any width. It would not have to be 35 feet, however, it would not be the same % reductions as agriculture because it wouldn't have the same filtration. Buffers will do more for water quality than what her model can estimate.
Page 3 handout: Megan said that when she provided the SW BMP modeling summary, she didn't realize the model needed more inputs that she had, there were not enough time or data to enter in the TMDL model. What she did do was similar to the rain barrel model. She used the model output straight from the City Of Richmond that is from their sewer system model. She used that to build the TMDL model. They sent her the inputs from every hour output and how much was from their overflows, the data was from 1974-1978. Using the acres in table 2 and all of the assumptions for the runoff holding capacity for the BMPs Megan was able to estimate a volume of water if these BMPs were implemented and the volume it would hold back from entering the system. It's a max amount of acres of runoff that we would get. It was interesting to see the maximum, what the benefit would be to reducing the # of times it overflows, and the total gallons (look at tables 3-6). Table 2 potential roof runoff would be catching anything that could be caught from roofs. These figures are only for areas that are in the CSO's.
-Ed said we should look at buildings that we can control, government owned properties. In the CSO areas if we control areas we could only get less than 10% of the land area. The analysis is done but people in private property will not have to do it, however if they did they could get a credit on their stormwater bill.
-Craig said to Ed, if you have a summary of what you just regarding what to put in the text about the SW BMPs – please provide.
Page 4 handout: The area could go to a rain barrel, 50 gallons drained each day to a pervious land use so it stays out of the CSO. One cistern =10 rain barrels.
-The days that it was a small overflow - flow was reduced. The rain barrels help with smaller rainfall events. The second number is the CSO number, the total gallons of overflow estimated during the 74-78 time period.
Page 5 handout: 80% of the roof would be green; it would retain 1" of rainfall. The analysis is the max # of green roofs installed in these watersheds. It retains 16% of CSO's days.

Page 8 handout: Megan calculated the maximum daily amount of volume storage they would get. The City Of Richmond would need to build a system to hold 2 million more gallons of water. The analysis was not done on all the streams because not all streams have any CSO's.
-Megan thinks the maximum number for rain barrels should stay and we could educate people on those, she can redo the numbers for pervious pavement and green roofs if SC members think they would be implemente d
Page 9 handout, Bernards Creek: And remaining tables (except last one) you have to read the top to know what stream you are on (FYI), the only thing different in tables would be the number of units and the costs, in the plan the zero's will be erased unless SC members would like them included to show the practice was evaluated but unnecessary.
-Creek was mostly an agriculture watershed; it has livestock exclusions, and a 10-35 foot buffer. The improved pasture management she estimated the acres needed already so she included that there.
-Ram stated the improved pasture is more than fencing, it should be included in the cost; he doesn't remember how much it cost (Ram please provide if you can).
-The reforestation acres re 10 % and the buffers of cropland, she has it in acres because that's the measure buffers were given in.
-Residential BMP's, if you sent us data we included it.
-Alternative septic systems: 90-95% in Henrico will need alternative systems.
- Ed asked if there are citations for where costs were derived or estimated. He said the Center for Watershed P rotection has cost estimates and they are about 3 times the amount of these (bio retention cost about 30-$35,000 per acre). The center for watershed protection would be what he would use, if it is going to be done in 10 to 20 years it will be about 3 times the cost to retrofits. Megan can include a reference for costs.
-Megan said no pet waste composters were needed to meet target in Bernards Creek. We are concentrating on bacteria loads, so if you are treating runoff from areas then you are going to get bacteria from many sources, and if you have pet composters it only targets dogs. There is a lot of agriculture in Stage 1 because we are familiar with that and we know it will reduce a lot of bacteria from the stream. Residential bacteria removal is also focused in Stage 1 because it deals with human waste. Pet waste is in Stage 1 because it's an education tool therefore it needs to get started early.
-Ram asked after Stage 1 how much bacteria will we be able to remove? Megan said she hasn't figured that out yet because it will change. Once she does that she will put it in a table, there is a Stage 3 that we don't talk about that is 5 years of monitori ng. Typically after each stage the Steering Committee will meet and bring data and go over progress of installation and the monitoring data.
Page 10 handout, Tuckahoe Creek: There was more agriculture then she thought, Goochland said they had wetlands (county and SWCD was going to provide info she thought but she hadn't received the converted wetland number from them) Quite a few livestock exclusion systems needed and there were quite a few of residential BMPs. There is a 10 for pet waste education because she had there were 5 parks (2 stations at each). There is quite a bit of streamside fencing maintenance, and to meet target load didn't need pet waste composters.

-Bob said this creek is public water supply for COR - was that taken into account? No, this analysis is for recreation use standard.

Page 11 handout, Powhite Creek: Megan did estimate a few cattle and fencing needed, this needs to be verified by SWCD or locality that population exists. Residential systems have a low need that is estimated on corrected septic systems by Chesterfield VDH has already done. No pet composters are needed but there are residential Storm Water BMP's.

-Bob stated in the Ches. Bay WIP there are Storm Water reductions in areas that there are not CSO's. Will we include the equivalent nutrient reductions for BMPs? No – that was not within the scope of the bacteria IP. Chris asked does it make sense if something is already being quantified to add it? Margaret said we don't want to duplicate the effort and Megan said the hope is that WIP would take this document to use in the WIP. Craig said the documentation in the layers can be used in that effort.

Page 12, Reedy Creek: Upstream is not CSO but downstream contributes to CSO diffuser # 40. Pet waste composters were needed and residential urban Storm Water BMP's were necessary.

Page 13, James River Riverine: The pump-outs there are for Goochland County, the pet stations were already implemented (City of Richmond) so none were include there but more can be added if Megan knows green-space area and # of stations (estimate to be based on the area – can't just pull a number from the air).

Page 14, Gillie Creek: The cost of millions of dollars are because the CSO volume reductions are very expensive, the extra storage was COR estimates minus the total gallons you would get from the LID practices, those could change if you could give me numbers of what the City could do. She could always put zero and leave their estimate in. The City's dollar figures are from previous comments made by the City.

Page 15, Almond Creek: Some livestock is estimated, we have not gotten verification for that one livestock exclusion. Chris asked if Henricopolis SWCD involved and helping with this? Margaret said no, Keith Burgess from Monacan SWCD is the only rep that has been involved. Keith may have been coordinating with them however.

Page 19, James River tidal: Megan added corrected failing septic systems from VDH. There were no required reductions for CSO's.

Page 20- The last table would be the maximum quantification of the CSO SW BMP's. They are here so people can see. They are very expensive so they are not in the draft tables; they are in the tables in the back. If someone wants to see what the rain barrels quantify then they are here and they can see the cost. Megan needs info on the SunTrust building, planned Science Museum, and 2nd VCU green roof. Bob said there are 2 on VCU buildings, there is one on VACO building (Mosley architects). All these are in the riverine section.

Ram **said he thought** the Virginia Museum of Fine Arts has a parking deck that has a green roof, the science museum might be having one added in the future.

5. Discussion (1 hour)

"Social Media" Campaign

In regards to discussion at the last residential WG meeting- Margaret had discussions with HR PDC and DCR. There needs to be one major entity that will take the lead with organizing the effort, everyone has SW issues. The alliance of Chesapeake Bay and the Middle James Round Table will be the leads on the effort. They are going to have a kickoff meeting in the next week to have stakeholders join (No date for the kickoff meeting yet set).

Chris will be looking at work that has been done in HR PDC over the past 8-9 years, we should look to them. These are just discussions, there are no plans that have been set, and this just came up as discussion after the last IP meetings. For the RR PDC the political leaders on the board could not take the lead, they could participate however. City of Richmond asked if The Chesapeake Club could be the lead. Chris said they are very focused on their grant which revolves around Bay issues and focused on planting more plants campaign. Ram said the social media campaign will be expensive however stations offer public service announcements which are free.

Margaret said for IP, we need in the short term a figure for what the social media campaign would cost and what would be included. HRPDC their total SW budget is $75,000, ½ that they said is used for TV and radio (some 15 localities participate). It would cost 200-$250,000 over the time of the IP Lorne stated (avg of $12,500/year).

Wildlife Management Plan (update)

Mr. Bernard asked, what about the Canada geese? Craig said a wildlife management plan would include them. He can email out the update for this, DGIF has a plan that individuals and entities can follow – they are to provide additional info.

Forum for watershed stakeholders (blog, post, updates, etc)

Craig and Margaret talked about setting up forums where stakeholders can have discussions or post to keep up to date info on the watershed. Margaret has talked to a few people about options. Craig said apart from IP he thinks this is a separate project. DEQ doesn't do a good job of its adaptive management and follow up to a TMDL. DCR does a better job of this. In order to make adaptive management real-time it would be helpful if we talked about these things somewhere (such as an online forum) for things such as implemented BMPs and cost changes. It would be good to learn the lesson upfront instead of throwing money away on things that will not be helpful – a forum would be a good way of exchanging this type of information. He thinks a forum would be beneficial to the stakeholders; it can include updated maps, and information on streams that are upstream.

Chris said Alliance for Ches Bay has the infrastructure to do this already, it is set up now and there are already 3000 people connected. Local governments and watershed groups are involved, we can set up a forum that could be public or private, and he could give a short five minute presentation at the next Steering Committee meeting if we like. Network is already in place and is free, Alliance just has to pay a staff member to update it, so if anyone wants to donate funds toward the effort they would welcome it. There is a main overall forum, and there are separate groups you can connect. Watershed groups share meeting minutes and sensitive documents.

Margaret stated she has not heard of any other ideas so we should have some internal calls about this and a presentation at the next meeting would be great.

Sewer connection BMP

Scott Flanigans from Chesterfield County gave a summary of their analysis. Analysis included Residential connections in Chesterfield that are in watersheds which drain to the James. In the last 10 years there have been about 50 homes connected to public sewer. They wanted to project the numbers for the future. First came up with 3% of the total connections for the past 10 years. They estimated 3% per year. They backed off that because there are some home owners that are not interested in connecting to the sewer, so then they figured out the amount of 1 acre or less lots because they would need to connect due to lack of acreage (sizing not adequate for system). They extracted values for every 10 years up to 2050. The total cost would be around $6000 per house to connect to public sewer and that does not include removing the old system. From 2010-1020 the cost would be around $2 million, they did cost for each year and each watershed. It took a few hours to figure out the numbers, the sewer connections were a little tricky, they are not tracked so another set of staff had to look at building permits. Anyone who wants to provide estimates could come up with them in a few hours time.

Margaret said if any other localities are interested in sending information for this we would need it by 3/23. So the final numbers that we end up from you would say? Scott said for the last 10 years about 50 homes connected so, from 2010-2020 per year would be 33. Margaret asked if Megan should use 2010-2020 numbers for Stage 1 and 2020-2030 for Stage II? Scott said the idea that they had was to put a percentage reduction instead of a number. Each watershed would have its own number based on a percentage reduction (32%).

Meeting adjourned at 5pm.